

# EXHIBIT 95

FILED UNDER SEAL



SECRETARIAT ADVISORS, LLC  
Dallas, Texas  
469.257.5580  
[secretariat-intl.com](mailto:secretariat-intl.com)

UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF WASHINGTON  
AT SEATTLE

---

**IN RE: VALVE ANTITRUST  
LITIGATION**

Case No. 2:21-cv-00563-JNW  
**SURREPLY CLASS  
CERTIFICATION EXPERT  
REPORT OF**  
Steven Schwartz, Ph.D.

A handwritten signature in black ink, appearing to read "Steven Schwartz", is written over a horizontal line.

Steven Schwartz, Ph.D.

September 9, 2024

## Summary of Contents

1.	Introduction .....	1
2.	Steam Keys.....	4
3.	My Analysis Models Steam as a Two-Sided Platform .....	8
4.	My Analysis Appropriately Models the But-For World.....	11
5.	Pass-Through .....	15

## Table of Contents

1.	Introduction .....	1
1.1.	Assignment.....	1
1.2.	Summary of opinions .....	2
2.	Steam Keys.....	4
2.1.	Steam Keys are a feature and do not influence the commission rate paid by publishers.....	4
2.2.	Dr. Langer's Wolfire example is irrelevant.....	6
3.	My Analysis Models Steam as a Two-Sided Platform .....	8
4.	My Analysis Appropriately Models the But-For World.....	11
4.1.	Damages models necessarily cannot account for every possible feature of the but-for world .....	11
4.2.	My model properly captures Valve's pricing conduct with respect to price neutrality .12	12
4.3.	Features not likely to change in the but-for world need not be modeled .....	12
4.4.	Steam Community Market is irrelevant.....	13
5.	Pass-Through .....	15

## Table of Surreply Attachments

<u>Section A</u>	<u>Expert Materials</u>
Surreply Attachment A-1	Updated Curriculum Vitae of Steven Schwartz, Ph.D.
Surreply Attachment A-2	Surreply Materials Considered

---

## 1. Introduction

---

### 1.1. Assignment

- (1) Intensity, a Secretariat company / Secretariat Advisors, LLC (“Intensity/Secretariat”),<sup>1</sup> has been retained by Plaintiffs’ Counsel on behalf of Wolfire Games, LLC (“Wolfire”), Dark Catt Studios Holdings, Inc. (“DCS Holdings”), Dark Catt Studios Interactive LLC (“DCS Interactive”) (together with DCS Holdings, “Dark Catt”), and a putative class of Plaintiffs (together, “Plaintiffs”) in the above-captioned litigation against Valve Corporation (“Valve”).<sup>2</sup>
- (2) On February 8, 2024, I submitted an expert report (hereinafter referred to as my “Opening Report” or the “Schwartz Opening Report”). I incorporate my Opening Report, including all attachments and backup materials, herein by reference.
- (3) On May 17, 2024, Valve submitted the expert reports of Lesley Chiou, Ph.D. (“Chiou Report”) and Ashley Langer, Ph.D. (“Langer Opening Report”) (collectively, the “Defendant’s Opening Expert Reports”), in response to my Opening Report.<sup>3</sup>
- (4) On July 12, 2024, I submitted an expert report that addressed the analysis set forth in the Chiou Report and Langer Report (hereinafter referred to as my “Reply Report” or the “Schwartz

---

<sup>1</sup> On February 1, 2023, Intensity, LLC was acquired by Secretariat International and began operating as Intensity, a Secretariat Company. On January 1, 2024, my employment was transferred to Secretariat Advisors. Intensity operated as Intensity, a Secretariat Company at the time of my Opening Report and deposition. As of July 1, 2024, Intensity operates as Secretariat Advisors.

Intensity/Secretariat is currently being compensated at a rate of \$1,100 per hour for my work in this matter. Prior to January 2024, Intensity/Secretariat was compensated at an hourly rate of \$1,050. Intensity/Secretariat is being compensated for time spent by others on my team at rates that are lower than my hourly rate. Intensity/Secretariat’s compensation is not dependent on either my conclusions, the substance of my testimony, or the outcome of this matter.

<sup>2</sup> As discussed in my Opening Report, the game “developer” and game “publisher” serve different functions, whether those functions are accomplished by a single entity or multiple ones, that is sometimes a single company undertakes both functions. In this report, the terms are used interchangeably (unless otherwise noted) to describe the entity that is actually paying the Steam commissions to Valve and are part of the putative class. See:

Class Certification Expert Report of Steven Schwartz, Ph.D. (“Schwartz Opening Report”), 2/8/2024, fn. 42.

<sup>3</sup> Class Certification Expert Report of Lesley Chiou, Ph.D. (“Chiou Report”), 5/17/2024.

Class Certification Expert Report of Ashley Langer, Ph.D. (“Langer Report”), 5/17/2024.

I note that on June 10, 2024, Dr. Chiou submitted a corrected version of her report along with errata. For purposes of my reply report, I incorporate those edits into her originally submitted report and reference her May 17, 2024 submission throughout. See:

Corrected Class Certification Expert Report of Lesley Chiou, Ph.D., 6/10/2024.

Errata to the Class Certification Expert Report of Lesley Chiou, Ph.D., 6/10/2024.

Reply Report"). I incorporate my Reply Report, including all attachments and backup materials, herein by reference.

- (5) On August 12, 2024, Valve filed a brief in support of its motion to exclude my testimony on several topics.<sup>4</sup> Attached to this brief as an exhibit was an expert report submitted by Ashley Langer, Ph.D. (herein referred to as Dr. Langer's "Reply Report" or the "Langer Reply Report") on behalf of Valve in response to my Reply Report.<sup>5</sup>
- (6) This surreply report sets forth my analysis of and conclusions about the Langer Reply Report, based on my evaluation of information available to date. Specifically, this report sets forth responses to critiques, adjustments, and commentary presented in the Langer Reply Report.
- (7) Dr. Langer stated that she was asked to "assess the economic validity of Dr. Schwartz's reply report as it relates to two-sided modeling, his calculations of but-for market shares, his pass-through estimates, and his disregard of the potential impact of Steam keys on his estimated damages calculations."<sup>6</sup>

## 1.2. Summary of opinions

- (8) Dr. Langer offered a number of incorrect and misguided critiques of my analysis in her Opening Report, and she repeats many of those same incorrect critiques in her Reply Report. As I discussed in my Reply Report, and further discuss herein, Dr. Langer's critiques are without merit and/or irrelevant to the issues in this case. Below I provide a brief overview of my responses to her Reply Report:
  - a. Dr. Langer's arguments that Steam Keys offset harm to publishers and should be considered for individualized inquiry do not make economic sense and are flawed. The existence and use of Steam Keys is irrelevant to transactions on Steam subject to the supracompetitive commission rate and does not preclude classwide harm.
  - b. In both my Opening and Reply Reports, as well as in my deposition testimony, I have *always* stated that Steam is a two-sided platform. My models specifically capture the two-sided nature of the Steam platform. Dr. Langer misinterprets the fact that Valve only *prices* to one side of the market, to publishers, as consideration of the platform as one-

---

<sup>4</sup> Valve Corporation's Reply Brief in Support of its Motion to Exclude Testimony of Steven Schwartz, PhD, 8/12/2024.

<sup>5</sup> Reply Expert Report of Ashley Langer, Ph.D. in Support of Valve's Daubert Reply ("Langer Reply Report"), 8/12/2024. Submitted as Exhibit 34 to Valve Corporation's Reply Brief in Support of its Motion to Exclude Testimony of Steven Schwartz, Ph.D., 8/12/2024.

<sup>6</sup> Langer Reply Report 8/12/2024, ¶ 1.

sided. This is incorrect and my models are appropriate to use for consideration of the two-sided Steam platform.

- c. Dr. Langer's other criticisms relating to modeling the but-for world, Valve's pricing behavior, the but-for features on Steam, and Steam Community market are misplaced or entirely irrelevant.
- d. Dr. Langer's pass-through analysis, which she wrongly attempts to attribute as my analysis, is empirically incorrect and leads to erroneous conclusions. My pass-through analysis presented in my Opening Report and discussed in my Reply Report is economically appropriate, draws on common evidence, and is robust to the limitations of the data.

---

## 2. Steam Keys

---

- (9) Dr. Langer wrongly asserts that Valve's provision of Steam Keys must be included in the damages analysis, because she claims they offset the high commission rate upheld by Valve's platform most favored nation policy (the "PMFN Policy").<sup>7</sup> She uses this assertion to argue that individualized inquiry would be required to evaluate publisher harm.<sup>8</sup> To this end, Dr. Langer offers Wolfire as an example publisher that uses Steam Keys and argues that the effective commission rate that Wolfire pays to Valve is lower due to its use of Steam Keys.<sup>9</sup>
- (10) Dr. Langer's opinions related to Steam Keys are fundamentally flawed.<sup>10</sup> Regardless of whether a publisher uses Steam Keys for some transactions that occur *off* the Steam platform, publishers pay an inflated commission rate to Valve, enabled by Valve's PMFN Policy, when they transact with consumers *on* the Steam platform. Dr. Langer ignores that fundamental fact and, as a result, misses the point that *all* publishers suffer harm, including Wolfire, when transacting on the Steam platform. Further, because the use of Steam Keys off the Steam platform is irrelevant to the harm suffered by publishers for transactions occurring on Steam. Dr. Langer is wrong, as a matter of economics, that individualized inquiry is necessary to assess that harm. In my Opening Report, I demonstrate that harm can be established *and* evaluated using common evidence to all third-party digital game publishers who transact through the Steam platform.

### 2.1. Steam Keys are a feature and do not influence the commission rate paid by publishers

- (11) In my Opening Report and Reply Report, I demonstrate that Valve maintains a supracompetitive commission rate through enforcement of its PMFN Policy.<sup>11</sup> Valve's PMFN policy effectively prevents publishers from selling their games at lower prices or offering
- 

<sup>7</sup> Langer Reply Report 8/12/2024, ¶¶ 3, 4.

<sup>8</sup> Langer Reply Report 8/12/2024, ¶ 4.

<sup>9</sup> Langer Reply Report 8/12/2024, ¶ 4.

<sup>10</sup> I understand that Dr. Langer's opinions that Steam Keys offset commission rates rely on the concept of netting (*i.e.*, combining financial contracts to achieve a reduced "net" obligation), and thus are not applicable in this matter. See: Investopedia, "Netting: Definition, How it Works, Types, Benefits, and Example," 6/12/2024, <https://www.investopedia.com/terms/n/netting.asp>.

<sup>11</sup> Schwartz Opening Report, 2/8/2024, § 5.2.

Schwartz Reply Report, 7/12/2024, § 3.

differing content on other platforms. This inhibits new platforms from competing effectively for consumers and publishers in the relevant market. Consequently, Valve shields itself from competition and, as a result, maintains a supracompetitive commission rate for transactions occurring on the Steam platform.<sup>12</sup> In my Reply Report, I show that Valve's provision of Steam Keys has no relation to the commission rate that Valve charges publishers.<sup>13</sup> In short, each publisher faces the same commission rate structure on Steam regardless of the number of Steam Keys that they receive from Valve, if they receive or use any at all.

- (12) Because the number of Steam Keys issued to each publisher is entirely unrelated to the commission rate that Valve charges all publishers on purchases made on Steam, the harm suffered by publishers by that supracompetitive commission rate is unrelated to the provision of Steam Keys. In her Reply Report, Dr. Langer offers no evidence (and I am unaware of any such evidence) that Valve issues Steam Keys to publishers as a way to reduce their commission rate.
- (13) Dr. Langer's arguments (as with Dr. Chiou's in her expert report) reflect a mischaracterization of how Steam Keys are used by Valve and publishers. Steam Keys are a free *feature* or *service* that Valve offers publishers; publishers can use Steam Keys to derive additional value and reach audiences that may not be on Steam.<sup>14</sup> For example, Valve's Steamworks website states that, "Steam Keys are a free service we provide to developers as a convenient tool to help you sell your game on other stores and at retail[.]"<sup>15</sup> The degree to which publishers utilize the Steam Keys feature has no impact on the commission rate publishers actually *do* pay for transactions *on the Steam platform*. Similarly, the use of other features and services provided by Valve to publishers do not impact the commission rates paid by those publishers.
- (14) Further, Valve controls the distribution of Steam Keys, including setting the terms on which they will be provided. Valve can use the feature as a tool for whatever outcome it seeks. That is, Valve chooses whether, when, and how many Steam Keys it makes available to each

---

<sup>12</sup> Schwartz Opening Report, 2/8/2024, §§ 5.1.3, 6.1.

<sup>13</sup> Schwartz Reply Report, 7/12/2024, ¶ 177.

<sup>14</sup> Kristian Miller, Dep. Tr., 10/3/2023, at 60:1–6. ("Q. In your view, is one business objective of Steam Keys that Valve will reach customers who are not on Steam? A. In my view, the point of Steam Keys is that developers want them to reach customers who may or may not be on Steam already.")

<sup>15</sup> Steamworks Website, Steamworks Documentation: Steam Keys, <https://partner.steamgames.com/doc/features/keys> (accessed 10/18/2023). (Emphasis added.)

publisher for each game and reserves the right to cancel them at its discretion.<sup>16</sup> I am not aware of any time that Valve used Steam Keys as a pricing tool. When faced with pressure from publishers to lower its supracompetitive commission rate, I am not aware of Valve using Steam Keys and any possible impact on Drs. Langer and Chiou's "effective commission rate" as a way to placate those publishers. This behavior provides economic evidence that Valve neither regards Steam Keys as a pricing tool nor intends for publishers to view them as such.

## 2.2. Dr. Langer's Wolfire example is irrelevant

- (15) Dr. Langer's Wolfire example does not affect these above conclusions—*nor would any publisher she might choose as an example that either did or did not use Steam Keys*. Dr. Langer points out that Valve chose to issue over three million Steam Keys to Wolfire, while Wolfire has sold approximately 175,000 units directly on the Steam platform.<sup>17</sup> These numbers are meaningless as an economic matter and do not provide support for her argument; all this example shows is that Wolfire utilized a free feature that Valve offered on Steam. As I explain in my Opening Report, Reply Report, and summarize above, Steam Key sales occur off the Steam Platform. Any commission paid for the sale of Steam Keys is not determined by Valve and is irrelevant to Valve's ability to charge and sustain a supracompetitive commission rate for sales on Steam.
- (16) Further, Valve is likely to continue to offer the Steam Key feature in the but-for world.<sup>18</sup> Indeed, in my Reply Report, I explain that Valve would face even *greater* economic/competitive incentives to provide Steam Keys in the but-for world at no cost to publishers.<sup>19</sup> Steam Keys serve as a useful tool for Valve to draw in new customers from other platforms and retain Steam users who might choose to sample games on other platforms. In a but-for world where Valve would have to compete for customers, the competitive value of Steam Keys to Valve increases markedly as a tool to extend its reach and increase network effects. Thus, Wolfire would have still been able to obtain and utilize those three million Steam Keys in the but-for

---

<sup>16</sup> Schwartz Opening Report, 2/8/2024, ¶ 46.

Schwartz Reply Report, 7/12/2024, § 7.3.2.

<sup>17</sup> Langer Reply Report 8/12/2024, § 2, Exhibit 1.

<sup>18</sup> Schwartz Opening Report, 2/8/2024, fn 827.

Schwartz Reply Report, 7/12/2024, § 7.3.2.

<sup>19</sup> Schwartz Reply Report, 7/12/2024, ¶ 181.

world.<sup>20</sup> The critical change in the but-for world, however, is that Wolfire would have paid a lower, competitive commission rate on all of the transactions on Steam for its games.

---

<sup>20</sup> Dr. Langer claims I have opined Steam Keys are “unimportant to a determination of damages” and argues that Steam Keys “may substantially affect any damages calculation.” See:

Langer Reply Report 8/12/2024, ¶ 4.

However, as I discuss herein, those claims rely upon a baseless implicit assumption, that Steam Keys may vanish or dramatically change in usage in the but-for world. There is no basis or evidence in the record to conclude Valve would suddenly remove Steam Keys from its platform in the but-for world if Valve needed to compete on price and content. Steam Keys would still be a feature for all members of the class, just as it is the real world.

---

### 3. My Analysis Models Steam as a Two-Sided Platform

---

- (17) Steam is a two-sided platform. In the reports I have submitted and in my deposition testimony, I have never stated nor argued otherwise. I have repeatedly addressed how Valve's PMFN Policy harms *both* sides of the platform, publishers and consumers, as well as competition overall.<sup>21</sup> I consider this fact and the impact of Valve's PMFN Policy to the two sides of the platform, to game publishers and consumers, throughout my analysis.<sup>22</sup> Despite this clear and undeniable fact, Dr. Langer, again, mischaracterizes my analysis of the Steam platform as one-sided.<sup>23</sup>
- (18) In my Opening Report, I discuss Valve's practice of using a single fee or price as "*pricing to one side*" on Steam; this is distinct from and should not be conflated with a one-sided *platform*.<sup>24</sup> In her mischaracterization of my analysis, Dr. Langer ignores important economic literature that demonstrates that a two-sided platform, like Steam, can choose to set prices that apply only to one side of the platform without altering the two-sided nature of the platform. Recognition of this fundamental economic principle undermines her entire

---

<sup>21</sup> See, for example:

Schwartz Opening Report, 2/8/2024, § 8.

Schwartz Reply Report, 7/12/2024, § 8.4.

Steven Schwartz, Dep. Tr., 4/18/2024, at 34:6–21. (“Q. So am I right that, in order to define the market in this case, we have to consider consumers’ substitution behavior and also developers’ substitution behavior? A. I think it’s fundamentally around -- the questions here revolve around impact on developers and consumers. The developer behavior in part depends on consumer behavior, and consumer behavior in part depends on developer behavior, so I’m not sure that you can think about the meets and bounds of the relevant market without at least having an understanding of the way in which both developers and consumers behave.”) (Emphasis added.)

Steven Schwartz, Dep. Tr., 4/18/2024, at 99:2–20. (“Q. . . . Do you have a method to predict which successful game developers will, in your view, create a successful platform in the but-for world and which ones won’t? A. No, and I don’t need to. What I need to know is that there is going to be increased competition, and as a result of that increased competition from these additional third-party distribution platforms, Valve will be compelled by competitive pressure to compete on price with developers and will lower the commission rate, and vault of the lower commission rate, game prices will be reduced and both consumers and developers will benefit and there will be robust competition.”) (Emphasis added.)

<sup>22</sup> Schwartz Reply Report, 7/12/2024, ¶¶ 198–207.

See, also:

Steven Schwartz, Dep. Tr., 4/18/2024, at 233:24–235:6. (“Q. And the reason that you’re asserting here that you could consider this two-sided market as a one-sided market, as you do, is because the prices that are charged on one side get passed through to the other; right? A. Not quite. . . . So the pricing in Rochet and Tirole in their parlance would be one-sided. Even though there are two sides of the market, the users and the developers, the pricing is only one-sided.”) (Emphasis added.)

<sup>23</sup> Langer Reply Report, 8/12/2024, § 3. (“Dr. Schwartz fails to model Steam as two-sided, rendering his methodology incapable of estimating damages—if any—for the proposed class[.]”)

<sup>24</sup> Schwartz Opening Report, 2/8/2024, ¶ 340. (Emphasis added.)

argument. Two critical facts are relevant: (1) Steam is a two-sided platform and (2) Valve sets, objectively and unequivocally, *one* price, charged as an *ad valorem* fee, *only* to publishers (also known as an “agency pricing model”).<sup>25</sup>

- (19) Dr. Langer points to Rochet and Tirole’s definition of a two-sided market to support her conclusion that, by using a single price in my model, I am treating Steam as one-sided.<sup>26</sup> Dr. Langer misinterprets Rochet and Tirole’s definition, and her conclusion about the definition’s relationship to my analysis is wrong. Rochet and Tirole define a two-sided market as a market in which the prices charged to each side matter, because the platform connecting the two sides *can* affect the volume of transactions by charging more to only one side of the market.<sup>27</sup> This precisely describes the Steam platform.
- (20) Valve’s real-world pricing conduct for Steam is the best indication of its likely but-for conduct. There is no evidence—and Dr. Langer provides none—of any other pricing behavior being plausible or even being considered by Valve. For the entire history of the platform through today, Valve has continuously utilized an *ad valorem* fee, charged only to publishers, thus providing economic evidence that Valve considers this its best pricing strategy.<sup>28</sup> Valve’s

---

<sup>25</sup> Schwartz Opening Report, 2/8/2024, § 3.3.4.

Keen, Michael (1998), “The Balance Between Specific and *Ad Valorem* Taxation,” *Fiscal Studies* 19(1): 1–37, at 1–2. (“There are two main ways in which commodities are generally taxed: by a *specific* (or ‘unit’) tax. . . and/or by an *ad valorem* tax, specified as a proportion of the product price and so, in effect, a tax on the value of sales.”)

Schwartz Opening Report, 2/8/2024, ¶ 381.

Dr. Langer discusses the Steam Community Market as an example of Steam setting a fee on consumers. This is entirely irrelevant to my analysis, and I discuss it in more depth in Section 4.4. See:

Langer Reply Report, 8/12/2024, ¶¶ 7, 17.

<sup>26</sup> Langer Reply Report, 8/12/2024, ¶ 20. (“[Dr. Schwartz’s] claims here contradict his own arguments in his opening report and the academic literature he cites; a model cannot be two-sided if it fails to capture pricing behavior on both sides of the platform.”)

Rochet, Jean-Charles and Jean Tirole (2006), “Two-Sided Markets: A Progress Report,” *The RAND Journal of Economics*, 37(3): 645–667, at 664–665. (“Our first objective has been to propose such a definition: a market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board.”)

<sup>27</sup> Schwartz Opening Report, 2/8/2024, § 8.

Rochet, Jean-Charles and Jean Tirole (2006), “Two-Sided Markets: A Progress Report,” *The RAND Journal of Economics*, 37(3): 645–667, at 664–665. (“Our first objective has been to propose such a definition: a market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board.”)

<sup>28</sup> Schwartz Opening Report, 2/8/2024, §§ 3.3.4, 8.1.

Schwartz Reply Report, 7/12/2024, § 8.1.1.

consistent pricing behavior is the economically significant evidence of its but-for pricing choices. There is no economic basis to reach any other conclusion, Dr. Langer offers none, and thus her opinion is baseless. The only conclusion supported by economic evidence is to model Valve's but-for pricing as a one-sided price. That is what I have done in my analysis.<sup>29</sup>

- (21) The rest of my analysis also explicitly considers and models the economics relevant to the *two-sided* nature of the Steam platform. Both the Boik and Corts model and my Platform Competition Model ("PCM") are specific models for examining two-sided platforms. For example, to capture the consumer side of the platform and market, consumer demand is an input in the function of the sale price of the game.<sup>30</sup> Additionally, capturing the other side of the market, the publisher's pricing decision is modeled as a function of consumer demand and the platforms' commission fee.<sup>31</sup> Finally, to capture how the platform interacts between the two sides of the market, and thus confirming the two-sided nature of the platform, the platforms' fee setting behavior is modeled as a function of what the response of both sides of the market will be.<sup>32</sup> Thus, the consumer side and the publisher side of the two-sided platform, and the interactions that exist in the market, are explicitly considered and captured by my model. Any suggestion to the contrary by Dr. Langer is simply wrong.

---

<sup>29</sup> This is not a new position or argument. I have stated Steam is two-sided since my Opening Report and discuss Steam's use of a single price as their pricing conduct and not an inherent feature of the market or platform. See:

Schwartz Reply Report, 7/12/2024, ¶¶ 198–207.

<sup>30</sup> Boik, Andre and Kenneth S. Corts (2016), "The Effects of Platform Most-Favored-Nation Clauses on Competition and Entry," *The Journal of Law and Economics* 59(1): 105–134, at 111.

Schwartz Opening Report, 2/8/2024, at 150.

<sup>31</sup> Boik, Andre and Kenneth S. Corts (2016), "The Effects of Platform Most-Favored-Nation Clauses on Competition and Entry," *The Journal of Law and Economics* 59(1): 105–134, at 112, 133.

<sup>32</sup> Boik, Andre and Kenneth S. Corts (2016), "The Effects of Platform Most-Favored-Nation Clauses on Competition and Entry," *The Journal of Law and Economics* 59(1): 105–134, at 113–114, 133–134.

---

## 4. My Analysis Appropriately Models the But-For World

---

### 4.1. Damages models necessarily cannot account for every possible feature of the but-for world

- (22) Dr. Langer also asserts that every potential but-for scenario, even if unsupported by the facts of this case or economic evidence/logic, must be explicitly modeled in the but-for world. Dr. Langer suggests that platform features, any “non-price dimensions of competition[,]” innovation decisions, marketing decisions, and the ways in which platforms compete for customers *could* change in the but-for world and so must be explicitly modeled.<sup>33</sup> This suggestion is misguided; modeling every single *potential* change is impossible, and would be impossible in *any* dynamic market, *i.e.*, one in which anything changes between the actual and but-for worlds. Thus, under Dr. Langer’s logic, she could never measure harm or damages in such markets.
- (23) In her deposition, Dr. Langer admitted that this critique does not make economic sense and is not consistent with the way economists build economic models. Dr. Langer stated that, in economics, “all models are simplifications,” and no economic model could “capture every detail.”<sup>34</sup> Her unwillingness to accept this same standard for this damages model is perplexing. Damages models, like any economic model, are simplifications, as Dr. Langer testified.<sup>35</sup>

---

<sup>33</sup> Langer Reply Report, 8/12/2024, ¶ 22. (“[F]eatures and membership benefits may not improve in [a but-for world with increased competition], so it is important to use a model that is capable of analyzing membership benefits and competition for consumers. Dr. Schwartz’s model cannot.”)

Langer Reply Report, 8/12/2024, ¶ 24. (“Dr. Schwartz’s PCM assumes one-sided pricing by the platform and does not include network effects or non-price dimensions of competition (such as changes in platform features).”)

Langer Reply Report, 8/12/2024, ¶ 6. (“He does not model the ways in which Valve makes consumer-facing pricing, innovation, or marketing decisions, or the ways in which platforms compete for customers.”)

<sup>34</sup> Ashley Langer, Dep. Tr., 6/21/2024, at 67:11–68:6. (“Q. Okay. And when you use the term ‘accurately,’ are you using that in a sense that it has to be 100 percent accurate? A. No. All models are simplifications, and we always have to come up with ways to model the actual industry. It won’t capture every detail. What’s important -- and I have various cites through textbooks and things like that throughout my report -- what’s important about models is that they capture the key forces that are affecting outcomes. It depends on your question. So to speak about the questions Dr. Schwartz is asking here that affect the decisions that the platforms, the publishers and the consumers are making in the industry that are related to the challenged conduct and then capturing the -- in this case, the alleged PMFN and understanding how removing it, if it were there, would impact your model. And so it does not have to be perfect, but it has to capture the key interactions that are relevant to the question at hand.”)

<sup>35</sup> Ashley Langer, Dep. Tr., 6/21/2024, at 67:11–68:6. (“Q. Okay. And when you use the term ‘accurately,’ are you using that in a sense that it has to be 100 percent accurate? A. No. All models are simplifications, and we always have to come up with ways to model the actual industry. It won’t capture every detail. What’s important -- and I have various cites through

## 4.2. My model properly captures Valve's pricing conduct with respect to price neutrality

- (24) Dr. Langer mischaracterizes my argument on price neutrality.<sup>36</sup> Rochet and Tirole note that “[t]he value-added tax is an epitome of the possibility of neutrality.”<sup>37</sup> The value-added tax is an *ad valorem* tax, as is the *ad valorem* fee Valve charges to publishers on Steam. The discussion of price neutrality in my Opening Report shows that my model is robust to Valve changing its pricing conduct on Steam by charging an *ad valorem* fee to consumers as well as publishers (since this would be price neutral).<sup>38</sup> That is, my model properly captures the pricing conduct that resembles Valve’s real-world pricing on Steam (*ad valorem* fees). As an economic matter, that is sufficient for the model to be valid and appropriate for purposes of my analysis, and I maintain and support the assumption of price neutrality.

## 4.3. Features not likely to change in the but-for world need not be modeled

- (25) Rochet and Tirole define volume insensitive costs as platform-imposed fees to one side of the market that are not proportional to the number of transactions on the platform.<sup>39</sup> A hypothetical example of a volume insensitive cost is if Valve charged a monthly Steam membership fee charged to all users, regardless of the volume of their game purchases. Such a cost would not be neutral.<sup>40</sup> Dr. Langer criticizes my analysis for not including volume insensitive costs imposed by Valve.<sup>41</sup> Dr. Langer claims that there are “negative membership

---

textbooks and things like that throughout my report -- what’s important about models is that they capture the key forces that are affecting outcomes. It depends on your question. So to speak about the questions Dr. Schwartz is asking here that affect the decisions that the platforms, the publishers and the consumers are making in the industry that are related to the challenged conduct and then capturing the -- in this case, the alleged PMFN and understanding how removing it, if it were there, would impact your model. And so it does not have to be perfect, but it has to capture the key interactions that are relevant to the question at hand.”)

<sup>36</sup> Langer Reply Report, 8/12/2024, ¶¶ 8–14.

<sup>37</sup> Rochet, Jean-Charles and Jean Tirole (2003), “Platform Competition in Two-Sided Markets,” *Journal of the European Economic Association* 1(4): 990–1029, at 1018.

<sup>38</sup> Schwartz Opening Report, 2/8/2024, § 8.

<sup>39</sup> Rochet, Jean-Charles and Jean Tirole (2003), “Platform Competition in Two-Sided Markets,” *Journal of the European Economic Association* 1(4): 990–1029, at 1019. (“Neutrality also fails when at least one side of the market incurs costs that are a) influenced by the platform and b) are not proportional to the number of transactions on the platform.”)

<sup>40</sup> Rochet, Jean-Charles and Jean Tirole (2003), “Platform Competition in Two-Sided Markets,” *Journal of the European Economic Association* 1(4): 990–1029, at 1019. (“Neutrality also fails when at least one side of the market incurs costs that are a) influenced by the platform and b) are not proportional to the number of transactions on the platform.”)

<sup>41</sup> Langer Reply Report, 8/12/2024, ¶¶ 10–14.

costs that represent the benefits that Steam's features offer to the platform's users[,]”<sup>42</sup> which she claims would make it “improper to treat a two-sided market as having only a single price[.]”<sup>43</sup> This criticism is incorrect.

- (26) Dr. Langer identifies so-called “membership benefits.”<sup>44</sup> What she identifies are *not* membership benefits and are, instead, simply features of the Steam platform (*e.g.*, remote play, chat features, storing games in a library). These features are unlikely to change in a material way in the but-for world, if at all. When modeling the impact of a changed market environment, features that are *unchanged* between the actual and but-for worlds or that do not change relevant outcomes in the real or but-for worlds, such as these Steam features, have no impact on the model’s predictions. Thus, there is no need to consider them in the model. Indeed, in her deposition, Dr. Langer agreed that factors unlikely to impact outcomes need not be modeled, stating, “what’s important about models is that they capture the key forces that are affecting outcomes. It depends on your question.”<sup>45</sup> I agree. Here, the question at hand is of harm and damages resulting from Valve’s PMFN Policy; modeling features that are unlikely to change is simply not necessary and does not impact the propriety of my model.

#### 4.4. Steam Community Market is irrelevant

- (27) Dr. Langer claims that I must model fees charged to consumers in the Steam Community Market.<sup>46</sup> She is incorrect, because the Steam Community Market is not the same as the broader Steam platform.<sup>47</sup> Steam Community Market is a place where consumers can “[b]uy and sell items with community members for Steam Wallet funds.”<sup>48</sup> In other words, it is a setting in which transactions occur that do not involve publishers. The Steam Community Market allows *consumers to sell to consumers*. The seller-consumers receive money that is deposited into their Steam Wallet account, which can then only be spent on other purchases

---

<sup>42</sup> Langer Reply Report, 8/12/2024, ¶ 11.

<sup>43</sup> Langer Reply Report, 8/12/2024, ¶ 10.

<sup>44</sup> Langer Reply Report, 8/12/2024, ¶ 12.

<sup>45</sup> Ashley Langer, Dep. Tr., 6/21/2024, at 67:11–21. (“Q. Okay. And when you use the term ‘accurately,’ are you using that in a sense that it has to be 100 percent accurate? A. No. All models are simplifications, and we always have to come up with ways to model the actual industry. It won’t capture every detail. What’s important -- and I have various cites through textbooks and things like that throughout my report -- what’s important about models is that they capture the key forces that are affecting outcomes. It depends on your question.”)

<sup>46</sup> Langer Reply Report, 8/12/2024, ¶¶ 7, 17.

<sup>47</sup> Steam Website, Steam Community Market, <https://steamcommunity.com/market/> (accessed 9/6/2024).

<sup>48</sup> Steam Website, Steam Community Market, <https://steamcommunity.com/market/> (accessed 9/6/2024).

on Steam.<sup>49</sup> This is entirely distinct from and different than transactions made on the Steam platform where consumers are purchasing from publishers, and publishers receive actual currency for those transactions. The consumer-publisher transactions are the ones at issue in this case.

- (28) Notwithstanding these undisputed facts, Dr. Langer states that transaction fees on the Steam Community Market constitute a “direct fee” that Valve charges consumers for the use of the Steam platform.<sup>50</sup> This conclusion is wrong as an economic matter; in fact, this fee is completely irrelevant to transactions between publishers and consumers. Thus, these consumer-to-consumer transactions on Steam Community Market occur outside of the relevant market, where consumer-to-publisher transactions are at issue.<sup>51</sup>

---

<sup>49</sup> Lifewire Website, Steam Community Market: What It Is and How To Use It, <https://www.lifewire.com/steam-community-market-what-it-is-and-how-to-use-it-4586933> (accessed 9/6/2024).

<sup>50</sup> Langer Reply Report, 8/12/2024, ¶ 7.

<sup>51</sup> Further, even if for the sake of argument, I do consider this fee to be relevant (which it is not), there is no evidence or economic basis to believe Steam Community Market transactions would change in the but-for world. As discussed above, Steam Community Market is a feature of the Steam platform that would not be likely to drastically change with or without the challenged PMFN Policy. In addition to the fact that there is no basis to conclude that Valve would take away such real-world features in the but for world, if anything, Valve would need to *increase* the quality of its features when it faces genuine competition. See:

Schwartz Reply Report, 7/12/2024, § 8.1.4.

Dr. Langer’s pivot to discussing Steam Community Market fees in her Reply Report does not impact my opinion that Valve engages in agency pricing on the Steam platform in the real-world and would continue to engage in agency pricing in the but-for world. In fact, as an economic matter, the Steam Community Market is irrelevant to the issue at hand.

---

## 5. Pass-Through

---

- (29) Dr. Langer repeats the claim from her Opening Report that my methodology for evaluating pass-through assumes that “proposed class members would pass through changes in Valve’s revenue share in an identical fashion.”<sup>52</sup> Her characterization of my methodology and analysis is wrong. Moreover, my empirical pass-through analysis *demonstrates* that there is a great deal of similarity in pricing behavior across publishers and games (both in terms of base prices and sales prices).<sup>53</sup>
- (30) I have also demonstrated empirically that my pass-through estimate is robust across various samples of publishers and time periods.<sup>54</sup> While my estimate provides a range of pass-through rates applied across all publishers harmed by Valve’s conduct, my analysis is agnostic to the mechanism and timing by which publishers may pass the cost savings through to consumers.<sup>55</sup> Indeed, my analysis recognizes that publishers may experience price influencing factors at different points in time.
- (31) Dr. Langer repeats the flawed analysis she presented in her Opening Report. Dr. Langer claims to analyze each of the single per-game observations from my pass-through analysis data as the game-specific pass-through rate.<sup>56</sup> In my Reply Report, I explain that her approach is fundamentally flawed and thus leads to erroneous conclusions.<sup>57</sup> In my Reply Report, I pointed out that her analysis is highly sensitive to “noise” in the data, and she does nothing to control for that noise.<sup>58</sup> In any empirical economic analysis, the impact of the noise in the

---

<sup>52</sup> Langer Reply Report, 8/12/2024, ¶ 32.

<sup>53</sup> Schwartz Opening Report, 2/8/2024, ¶¶ 386–389.

Schwartz Reply Report, 7/12/2024, ¶¶ 246–251.

<sup>54</sup> Schwartz Opening Report, 2/8/2024, ¶¶ 393–397.

Schwartz Reply Report, 7/12/2024, ¶¶ 235–243.

<sup>55</sup> Schwartz Opening Report, 2/8/2024, ¶ 397.

Schwartz Reply Report, 7/12/2024, ¶¶ 246–251.

<sup>56</sup> Langer Report, 5/17/2024, ¶¶ 113–114.

Langer Reply Report, 8/12/2024, § 5.1.

<sup>57</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>58</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

data needs to be controlled; if, as is the case with Dr. Langer's analysis, that data noise is not controlled, the analysis will not yield meaningful results.<sup>59</sup> Thus, Dr. Langer's approach fails.<sup>60</sup>

- (32) Again, as in her Opening Report, Dr. Langer claims that her analysis shows that there is individual variation in pass-through rates that would require individualized inquiry to evaluate.<sup>61</sup> However, because of her failures to include proper and needed controls in her analysis, there is *no way* to know whether any of the variation that Dr. Langer observes is attributable to the change in commission rate. As I discuss in my Reply Report, individual publishers ordinarily experience factors that influence their pricing decisions, other than the commission rate, over time.<sup>62</sup> For example, a game may experience rises and declines in popularity over time that are likely to lead a publisher to changing pricing to higher or lower average prices, respectively, all else equal.<sup>63</sup> By conducting her own “individualized” analysis without appropriate and necessary controls, Dr. Langer wrongly attributes the entirety of an observed price decrease to the commission change.<sup>64</sup> This approach and interpretation is wrong, because it does not consider the necessary controls for the impact of those other factors.<sup>65</sup>
- (33) My approach, which draws on common evidence, is economically appropriate and none of the controls discussed above are needed. I look at both the average and the median price changes across all games. These measures reflect pricing impacts (in this case, the commission reduction) that are correlated across the games in the sample.<sup>66</sup> While the other factors that may influence price are still occurring, the noise those factors create in the data is suppressed when the data are analyzed this way, because these factors are uncorrelated across games.<sup>67</sup>

---

<sup>59</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>60</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>61</sup> Langer Report, 5/17/2024, ¶¶ 113–114.

Langer Reply Report, 8/12/2024, § 5.1.

<sup>62</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>63</sup> Schwartz Reply Report, 7/12/2024, ¶ 235.

<sup>64</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>65</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>66</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>67</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

As such, my approach is more robust and consistent with sound economic principles applicable to empirical analysis, unlike Dr. Langer's.<sup>68</sup>

- (34) Dr. Langer, however, claims that my discussion of noise in the data in my Reply Report is a “new assumption” that is “unproven[.]”<sup>69</sup> She is incorrect. The discussion in my Reply Report directly responds to the Dr. Langer’s initial and incorrect interpretation of my analysis outlined in her Opening Report.<sup>70</sup> This repeated critique in her Reply Report simply continues to ignore the noise in the data, as described above, and, moreover, ignores the fact that economic data are inherently noisy. This is a statistical reality that Dr. Langer surely understands.<sup>71</sup> The economic and statistical justification of my approach was present in my Opening Report, even if Dr. Langer’s misplaced argument required me to provide further clarification in my Reply Report.

---

<sup>68</sup> Schwartz Reply Report, 7/12/2024, § 8.4.

<sup>69</sup> Langer Reply Report 8/12/2024, § 5.2.

<sup>70</sup> Schwartz Reply Report, 7/12/2024, ¶¶ 232, 237, 239.

In my Opening Report, I discuss the need to evaluate the data in a way that “isolate[s] the impact from a single commission rate reduction[.]” Further, rather than only using the mean as a way to control for the noise of other price-impacting factors in the data, I also use the median which “less susceptible to extreme outlier influence” in the noise of the data. See:

Schwartz Opening Report, 2/8/2024, § 8.4.2.

<sup>71</sup> Dr. Langer analyzes single data points and calls them pass through rates for individual publishers. This is *not* my analysis. However, she attempts to ascribe this analysis to me, stating in her reply that “I do not endorse Dr. Schwartz’s analysis as providing reasonable game-level pass through rates.” She then rebuts her own analysis. As I discuss herein, I agree with Dr. Langer that such an analysis, as she performs, is inappropriate. Thus, the conclusions she draws from her analysis from Exhibit 2 of her Opening Report are invalid. See:

Langer Reply Report, 8/12/2024, ¶ 32, fn 69.

See also:

Langer Report, 5/17/2024, ¶ 114.

**Steven Schwartz, Ph.D.**

Managing Director

5345 Towne Square Drive  
Suite 135  
Plano, TX 75024

Office: +1 469 257 5581  
email: sschwarz@secretariat-intl.com

Dr. Steven Schwartz has extensive experience in economic consulting. He has been retained as an economic expert in numerous litigation and non-litigation matters and has provided testimony before the U.S. International Trade Commission and the U.S. Tax Court, federal and state courts.

Dr. Schwartz has over 35 years of economic consulting experience and has applied his expertise in high-stakes disputes related to commercial success, irreparable harm, lost profits, reasonable royalties, economic domestic industry considerations, and unjust enrichment. His areas of expertise include:

- Antitrust and Competition
- Intellectual Property Damages and Valuation
- Damages Assessment in Complex Commercial Disputes
- Class Certification
- Securities and Finance Litigation

Examples of Dr. Schwartz work include:

- Analysis of liability and damages in several antitrust cases involving allegations brought under *Walker Process*.
- Analysis of liability and damages issues in a major antitrust case involving a large economic platform in which the allegations accused the platform of monopolizing the market for app distribution within its ecosystem and tying app distribution to payment processing for in app payments.
- Analysis of pricing behavior by a company that pled guilty to price fixing as a part of a larger conspiracy to determine the impact on the firm and to assess the portion of its price increases attributable to the conspiracy as opposed to non-collusive factors such as cost increases.
- Assessment to the damages suffered by a residential home builder and land developer as a result of alleged breaches of contracts and fraud by another home builder. The analysis included a determination of the number of homes the Plaintiff would have built and sold in the absence of the alleged breaches and fraud, as well as the losses the firm would incur as it attempted to re-enter the market, post-fraud.
- Analysis of the commercial success of a branded drug in the context of a Hatch-Waxman dispute; the branded drug was a late entrant into the market, i.e., after the entry of competitors selling generic versions of first and second-generation drugs, and Dr. Schwartz provided an assessment

of the drug's performance and success in the context of a market dominated by generic competitors.

- Analyzed the damages suffered by an aircraft manufacturer as a result of a patent infringement by a rival manufacturer of a component of the aircraft at issue. The royalty analysis considered the appropriate royalty in a case in which the infringing product was never sold.

Dr. Schwartz's consulting background spans many industries, such as hospitality, consumer goods, electronics, gaming, and pharmaceuticals, among others. He has also consulted in a variety of business, valuation and strategic planning issues.

## **EDUCATION**

- Ph.D., Economics, University of Maryland
- M.A., Economics, University of Maryland
- B.A., Economics, Wesleyan University

## **PROFESSIONAL EXPERIENCE**

- Secretariat. Managing Director, 2023 to present.
- Intensity, LLC. Managing Director, 2021 to 2023.
- Charles River Associates, Vice President, 2015 to 2020.
- Alvarez & Marsal, Global Forensic and Dispute Services, Managing Director, 2011 to 2015.
- NERA Economic Consulting, Senior Vice President (Final Position), 1984 to 2011.
- Miami University, Assistant Professor of Economics, 1980 to 1984.
- Federal Trade Commission, Economist, 1979 to 1980.

## **PUBLICATIONS AND PAPERS**

- "An Overview of Market Definition in the 2023 Merger Guidelines" with Jason Albert, Jessica Dutra, Richard Manning, Anushree Subramaniam, Wei Tan, Pablo Varas and Keith Waehler, *Secretariat Client Alert* available at <https://secretariat-intl.com/insights/an-overview-of-market-definition-in-the-2023-merger-guidelines/>, December 2023 (update to July 2023 version).
- "An Overview of Market Definition in the Draft Merger Guidelines" with Jason Albert, Jessica Dutra, Richard Manning, Anushree Subramaniam, Wei Tan, Pablo Varas and Keith Waehler, *Secretariat Client Alert* available at <https://secretariat-intl.com/insights/an-overview-of-market-definition-in-the-draft-merger-guidelines/>, July 2023.
- "The Use of Econometric and Statistical Analysis in Damages" with Jennifer Vanderhart, Richard Brady and Aminta Raffalovich, *The Guide to Damages in International Arbitration-Fifth Edition*, available at <https://globalarbitrationreview.com/guide/the-guide-damages-in-international-arbitration/5th-edition>, December 2022. (Update forthcoming)
- "An Overview of Trade Secret Misappropriation Damages." With Christopher Gerardi and Hong Qiao. *Trade Secret Protection: A Global Guide*, 2nd ed., edited by Trevor Cook, Globe Law and Business, June 2022.
- "Antitrust Analysis of FRAND Licensing Post-FTC v. Qualcomm," *The Journal of the Antitrust and Unfair Competition Section of the California Lawyers Association*, Volume 31, No. 1, Spring 2021 (with Aminta Raffalovich).
- "Pricing Challenges for Hotels in a Price Parity World." *The Price Point*, Volume 17, Issue 2, Spring 2017.

## SPEAKING ENGAGEMENTS

- Panelist, "Big Tech Cases" Informa Antitrust West Coast 2024, May 2024.
- "Don't Squat on Your Spurs: Ethical Issues in Class Actions Involving Injury and Experts" American Bar Association Class Action Institute, April 13, 2022.
- "What Can You Prove with Statistical Evidence, or How Do I Know if All Those Numbers Are Good or Bad", ABA Webinar Series, March 14, 2022.
- "Valuing Intellectual Property in the Case of Free-to-Consumer Goods, Webinar, April 6, 2021, and June 29, 2021.
- Panelist, "Cyber Breach Aftermath: Civil Litigation, Insurance Risks and SEC Perspective", American Bar Association Annual Meeting, Chicago, IL, August 2, 2018.
- "Dealing with a Breach's Long-Term Fallout" *Corporate Counsel*, March 2018.
- Panel Presentation "Cyber Breach Aftermath: Civil Litigation, Insurance Claims and Regulatory Perspective" Association of Corporate Counsel CLE Program, Chicago, IL, January 2018.
- Presentation to McGuire Woods LLP, Dallas, TX, August 8, 2017.
- Public Symposium, Developments in Trade Secret Protection, sponsored by United States Patent and Trademark Office, Washington, D.C., May 8, 2017.

## TESTIMONY AND AFFIDAVITS

1. Deposition Testimony in *Provisur Technologies, Inc. v. Weber, Inc. and Weber Food Technology GmBH*, United States District Court for the Western District of Missouri (St. Joseph Division), Case No. 5:21-cv-06113, June 2024. [Weber parties]
2. Deposition Testimony in *In Re: Valve Antitrust Litigation*, United States District Court for the Western District of Washington at Seattle, Case No. 2:21-cv-00563-JCC, April 2024.
3. Deposition Testimony in *Gerald Hayden v. International Business Machines Corporation, Pablo Suarez and Shankar Ramamurthy*, United States District Court for the Southern District of New York, Case No. 7:21CV-02485-VB, March 2024.
4. Deposition Testimony in *Apple, Inc. v. Masimo Corporation and Sound United, LLC and Masimo Corporation and Ceracor Laboratories, Inc. v. Apple, Inc.*, United States District Court for the District of Delaware, C.A. No. 1:22-cv-01378-MN, January 2024.
5. Trial Testimony in *In the Matter of Certain Bio-Layer Interferometers and Components Thereof*, United States International Trade Commission, Inv. No. 337-TA-1344, November 2023.
6. Deposition Testimony in *In the Matter of Certain Bio-Layer Interferometers and Components Thereof*, United States International Trade Commission, Inv. No. 337-TA-1344, May 2023.
7. Deposition Testimony in *World Champ Tech LLC v. Peloton Interactive, Inc.*, United States District Court, Northern District of California, San Francisco Division, Case No. 3:21-cv-03202-LB, April 2023
8. Deposition Testimony in *In Re: Google Play Store Antitrust Litigation: Match Group, LLC, Humor Rainbow, Inc., PlentyOfFish Media ULC, and People Media, Inc. v. Google LLC*,

*Google Ireland Limited, Google Commerce Limited, Google Asia Pacific PTE. Limited, and Google Payment Corp.* United States District Court, Northern District of California, Case Nos. 3:21-md-02981 and 3:22-cv-02746, March 2023.

9. Deposition Testimony in *Healthcare Recovery Group, LLC v. Coresource, Inc.*, In the Circuit Court of Cook County, Illinois, County Department, Law Division, Case No. 07-CH-016360, October 2022.
10. Declaration of Steven Schwartz, Ph.D., *Barrientos et al. v. CoreCivic, Inc.*, United States District Court, Middle District of Georgia, Case No. 4:18-cv-00070, October 2022.
11. Deposition Testimony in *PureCircle USA Inc. and PureCircle SDN BHD v. Sweegen, Inc. and Phyto Tech Corp. d/b/a Blue California*, Case No. 8:18-cv-1679 JVS (JDE), United States District Court, Central District of California, Southern Division, January 2022.
12. Deposition Testimony in *Baxalta Incorporated and Baxalta GmbH v. Genentech Inc. and Chugai Pharmaceutical Co., Ltd.*, District of Delaware, C.A. No. 17-509-TBD, August 2021.
13. Deposition Testimony in *Panasonic Corporation v. Getac Technology Corporation and Getac, Inc.*, Central District of California, Case No. 8:19-CV-01118-DOC-DFM, March 2021.

## Reports

14. Reply Class Certification Expert Report of Steven Schwartz, Ph.D. in *IN Re: Valve Antitrust Litigation*, United States District Court for the Western District of Washington at Seattle, Case No. 2:21-cv-00563-JCC, July 2024.
15. Expert Rebuttal Report of Steven Schwartz, Ph.D. in *Provisur Technologies, Inc. v. Weber, Inc. and Weber Food Technology GmbH*, United States District Court for the Western District of Missouri (St. Joseph Division), Case No. 5:21-cv-06113, May 2024.
16. Report of Steven Schwartz, Ph.D. in *Prevent U.S.A. Corporation v. Volkswagen, AG and Volkswagen Group of America, Inc.*, United States District Court for the Eastern District of Texas (Marshall Division), Case No. 2:22-cv-00506-JRG-RSP, May 2024.
17. Report of Steven Schwartz, Ph.D. in *Gerald Hayden v. International Business Machines Corporation, Pablo Suarez and Shankar Ramamurthy*, United States District Court for the Southern District of New York, Case No. 7:210CV-02485-VB, February 2024.
18. Class Certification Expert Report of Steven Schwartz, Ph.D. in *IN Re: Valve Antitrust Litigation*, United States District Court for the Western District of Washington at Seattle, Case No. 2:21-cv-00563-JCC, February 2024.
19. Reply Report of Steven Schwartz, Ph.D. in *Apple, Inc. v. Masimo Corporation and Sound United, LLC and Masimo Corporation and Ceracor Laboratories, Inc. v. Apple, Inc.*, United States District Court for the District of Delaware, C.A. No. 1:22-cv-01378-MN, January 2024.
20. Report of Steven Schwartz, Ph.D. in *Allergan, Inc., Allergan Pharmaceuticals Ireland Unlimited Company, and Allergan USA, Inc. v. Revance Therapeutics, Inc. and Ajinomoto Althea, Inc. d/b/a Ajinomoto Bio-Pharma Services*, Civil Action No. 21-1411-RGA in the United States District Court for the District of Delaware, December 2023.

21. Rebuttal Report of Steven Schwartz, Ph.D. in *Apple, Inc. v. Masimo Corporation and Sound United, LLC and Masimo Corporation and Ceracor Laboratories, Inc. v. Apple, Inc.*, United States District Court for the District of Delaware, C.A. No. 1:22-cv-01378-MN, December 2023.
22. Report of Steven Schwartz, Ph.D. in *Allergan, Inc., Allergan Pharmaceuticals Ireland Unlimited Company, and Allergan USA, Inc. v. Revance Therapeutics, Inc. and Ajinomoto Althea, Inc. d/b/a Ajinomoto Bio-Pharma Services*, Civil Action No. 21-1411-RGA in the United States District Court for the District of Delaware, December 2023.
23. Opening Report of Steven Schwartz, Ph.D. in *Apple, Inc. v. Masimo Corporation and Sound United, LLC and Masimo Corporation and Ceracor Laboratories, Inc. v. Apple, Inc.*, United States District Court for the District of Delaware, C.A. No. 1:22-cv-01378-MN, November 2023.
24. Supplemental Report of Steven Schwartz, Ph.D., *Barrientos et al. v. CoreCivic, Inc.* United States District Court, Middle District of Georgia, Case No. 4:18-cv-00070, July 2023.
25. Report of Steven Schwartz, Ph.D., *In the Matter of Certain Bio-Layer Interferometers and Components Thereof*, United States International Trade Commission, Inv. No. 337-TA-1344, April 2023.
26. Expert Report of Steven Schwartz, Ph.D., *World Champ Tech LLC v. Peloton Interactive, Inc.*, United States District Court, Northern District of California, San Francisco Division, Case No. 3:21-cv-03202-LB, February 2023.
27. Rebuttal Report of Steven Schwartz, Ph.D., *In Re: Google Play Store Antitrust Litigation: Match Group, LLC, Humor Rainbow, Inc., PlentyOfFish Media ULC, and People Media, Inc. v. Google LLC, Google Ireland Limited, Google Commerce Limited, Google Asia Pacific PTE. Limited, and Google Payment Corp.* United States District Court, Northern District of California, Case Nos. 3:21-md-02981 and 3:22-cv-02746. November 2022.
28. Expert Report of Steven Schwartz, Ph.D., *In Re: Google Play Store Antitrust Litigation: Match Group, LLC, Humor Rainbow, Inc., PlentyOfFish Media ULC, and People Media, Inc. v. Google LLC, Google Ireland Limited, Google Commerce Limited, Google Asia Pacific PTE. Limited, and Google Payment Corp.* United States District Court, Northern District of California, Case Nos. 3:21-md-02981 and 3:22-cv-02746. October 2022.
29. Expert Report of Steven Schwartz, Ph.D., *Healthcare Recovery Group, LLC v. Coresource, Inc.*, In the Circuit Court of Cook County, Illinois, County Department, Law Division, Case No. 07-CH-016360, August 2022.
30. Report of Steven Schwartz, Ph.D., in *Between Farmers Edge, Inc. and Precision Weather Solutions Inc., and Between Precision Weather Solutions Inc., and Farmers Edge Inc., Wade Barnes, Curtis Mackinnon, and Trevor Armitrage*, The Queen's Bench Winnipeg Center, File No. CI 15-01-99336, March 28, 2022.
31. Report of Steven Schwartz, Ph.D., *PureCircle USA Inc. and PureCircle SDN BHD v. Sweegen, Inc. and Phyto Tech Corp. d/b/a Blue California*, United States District Court, Central District of California, Southern Division, Case No. 8:18-cv-1679 JVS (JDE), December 2021.
32. Expert Report of Steven Schwartz, Ph.D., *Barrientos et al. v. CoreCivic, Inc.* United States District Court, Middle District of Georgia, Case No. 4:18-cv-00070, December 2021.

33. Rebuttal Expert Report of Steven Schwartz, Ph.D., *Baxalta Incorporated and Baxalta GmbH v. Genentech Inc. and Chugai Pharmaceutical Co., Ltd.*, District of Delaware, C.A. No. 17-509-TBD, June 2021.
34. Report of Steven Schwartz, Ph.D., *Panasonic Corporation v. Getac Technology Corporation and Getac, Inc.*, Central District of California, Case No. 8:19-CV-01118-DOC-DFM, March 2021.
35. Rebuttal Economist's Report of Steven Schwartz, Ph.D., *In re. Aetna Litigation, Central District of California*, Case No. 19-cv-04035, February 2020.
36. Economist's Report of Steven Schwartz, Ph.D., *In re. Aetna Litigation, Central District of California*, Case No. 19-cv-04035, February 2020.
37. Expert Report of Steven Schwartz, Ph.D., *Impax Laboratories, Inc. v. Zydus Pharmaceuticals (USA) Inc., et al.*, United States District Court, District of New Jersey, Civil Action No. 2:17-cv-13476 (SRC)(CLW), November 2019.
38. Expert Report of Steven Schwartz, Ph.D., in Rebuttal to the June 14, 2019 Report of Matthew Hoelle and to the July 15, 2019 Report of David W. DeRamus *Rockwell Automation, Inc., v. Radwell International, Inc.*, U.S. District Court, District of New Jersey, Case No. 1:15-cv-05246-RBK-JS, October 2019.
39. Supplement to June 14, 2019 Expert Report of Steven Schwartz, Ph.D., *Rockwell Automation, Inc., v. Radwell International, Inc.*, U.S. District Court, District of New Jersey, Case No. 1:15-cv-05246-RBK-JS, October 2019.
40. Expert Report of Steven Schwartz, Ph.D., in *Eli Lilly and Company v. Eagle Pharmaceuticals, Inc.*, United States District Court, District of Delaware, Case Mo. 17-cv-1293 (MSG), June 2019.
41. Expert Report of Steven Schwartz, Ph.D., in *Rockwell Automation, Inc., v. Radwell International, Inc.*, U.S. District Court, District of New Jersey, Case No. 1:15-cv-05246-RBK-JS, June 2019.
42. Economist's Report in Connection with Plaintiff's Motion for Class Certification in *Medbor Chavez, individually and on behalf of all others similarly situated v. FBL Financial Group, Inc., Farm Bureau Property & Casualty Ins. Co., Farm Bureau Life Insurance and Western Agricultural Insurance Company*, U.S. District Court for the District of Kansas at Kansas City, Case No. 2:17-02393-DDC-ADM, May 2019.
43. Rebuttal Expert Witness Statement and Report of Steven Schwartz, Ph.D., in Connection with *Hibernia v. Teza*, Hibernia Express (Ireland) Limited, successor to Hibernia Atlantic U.S. LLC v. Teza Technologies LLC, International Chamber of Commerce, ICC Case No. 22784/MK, June 2018.
44. Expert Witness Statement and Report of Steven Schwartz, Ph.D., in Connection with *Hibernia v. Teza*, Hibernia Express (Ireland) Limited, successor to Hibernia Atlantic U.S. LLC v. Teza Technologies LLC, International Chamber of Commerce, ICC Case No. 22784/MK, April 2018.
45. Update to Expert Report of Steven Schwartz, Ph.D., *D.R. Horton, Inc.-Huntsville; D.R. Horton, Inc. v. Breland Homes, LLC, et al. and Louis W. Breland, et al. v. D.R. Horton, Inc.-Huntsville*,

- et al.*, In the Circuit Court of Baldwin County, Alabama, Case No.: 2014-cv-901450.00, April 2018.
- 46. Rebuttal Expert Report of Steven Schwartz, Ph.D., *D.R. Horton, Inc.-Huntsville; D.R. Horton, Inc. v. Breland Homes, LLC, et al. and Louis W. Breland, et al. v. D.R. Horton, Inc.-Huntsville, et al.*, In the Circuit Court of Baldwin County, Alabama, Case No.: 2014-cv-901450.00, January 2018.
  - 47. Rebuttal Expert Report in Connection with a Confidential Arbitration in Stockholm, Sweden, December 2017.
  - 48. Expert Report in Connection with a Confidential Arbitration in Stockholm, Sweden, November 2017.
  - 49. Expert Report of Steven Schwartz, Ph.D., *D.R. Horton, Inc.-Huntsville; D.R. Horton, Inc. v. Breland Homes, LLC, et al. and Louis W. Breland, et al. v. D.R. Horton, Inc.-Huntsville, et al.*, In the Circuit Court of Baldwin County, Alabama, Case No.: 2014-cv-901450.00, November 2017.
  - 50. Expert Report of Steven Schwartz, Ph.D., *Boehringer Ingelheim Pharmaceuticals, Inc. et al. v. HEC Pharm Co., Ltd et al.*, United States District Court, District of New Jersey, Civil Action No. 3:15-cv-05982-PGS-TJB (consolidated), October 2017.
  - 51. Expert Report of Steven Schwartz, Ph.D. Regarding Validity of U.S. Patent Nos. 8,557,283; 9,089,608, 9,463,246, and 9,533,046, *Impax Laboratories, Inc. v. Actavis Laboratories FL, Inc. and Actavis Pharma Inc.*, United States District Court, District of New Jersey, Civil Action No. 15-6934 (SRC) (CLW), September 2017.
  - 52. Supplemental Economist's Report in Connection with *Perrigo Company, Sergeant's Pet Care Products, Inc. d/b/a Perrigo Animal Health, Velcera, Inc. and FidoPharm, Inc. v. Merial Limited d/b/a Merial LLC*, United States District Court for the Northern District of Georgia (Atlanta Division), Civ. Action No.: 1:15-cv-03674 (SCJ), August 2017.
  - 53. Economist's Report in Connection with *Perrigo Company, Sergeant's Pet Care Products, Inc. d/b/a Perrigo Animal Health, Velcera, Inc. and FidoPharm, Inc. v. Merial Limited d/b/a Merial LLC*, United States District Court for the Northern District of Georgia (Atlanta Division), Civ. Action No.: 1:15-cv-03674 (SCJ), May 2017.
  - 54. Initial Report of Steven Schwartz, Ph.D., in Connection with *Select Comfort v. Tempur Sealy International, Inc., d/b/a Tempur-Pedic*, United States District Court, District of Minnesota, 14-CV-00245-JNE-JSM, May 2016.
  - 55. Report of Steven Schwartz, Ph.D., in Connection with *Airbus Helicopters S.A.S. and Bell Helicopter Textron Canada Limitee*, Federal Court, Docket: T-737-08, April 2016.
  - 56. Initial Report in Connection with *Steven C. Jacobs v. Las Vegas Sands Corp., et al.*, District Court, Clark County, Nevada, Case No; A-10-627691, Dept. No. XI., March 2016.
  - 57. Expert Report in *Thomas Skold v. Galderma Laboratories, L.P., Galderma Laboratories, Inc., and Galderma, S.A.*, United States District Court, Eastern District of Pennsylvania, Case No. 2:14-cv-05280-TJS, October 2015.

58. Expert Report in connection with *Timberline Energy, LLC v. Waste Connections of Kansas, Inc.*, Case No. 2014CV03269, District Court, City and County of Denver, State of Colorado, August 2015.
59. Expert Report in *TrueCar, Inc. v. Sonic Automotive, Inc. and Sonic Divisional Operations, LLC*, United States District Court, Central District of California (Western Division) Case No. 2:13-cv-05812-CBM-FFM, April 2015.
60. Expert Report in *Virginia Forklift, Inc. v. Crown Equipment Corporation* in Arbitration before JAMS, January 2015.

HIGHLY CONFIDENTIAL – ATTORNEY'S EYES ONLY

**Surreply Attachment A-2**  
**Surreply Materials Considered**

**Pleadings and filings**

8/12/2024 Valve Corporation's Reply Brief in Support of its Motion to Exclude Testimony of Steven Schwartz, Ph.D., 8/12/2024.

**Expert reports**

Class Certification Expert Report of Ashley Langer, Ph.D., 5/17/2024.

Class Certification Expert Report of Lesley Chiou, Ph.D., 5/17/2024.

Class Certification Expert Report of Steven Schwartz, Ph.D., 2/8/2024.

Corrected Class Certification Expert Report of Lesley Chiou, Ph.D., 6/10/2024.

Errata to the Class Certification Expert Report of Lesley Chiou, Ph.D., 6/10/2024.

Reply Expert Report of Ashley Langer, Ph.D. in Support of Valve's Daubert Reply, 8/12/2024. Submitted as Exhibit 34 to Valve Corporation's Reply Brief in Support of its Motion to Exclude Testimony of Steven Schwartz, Ph.D., 8/12/2024.

Reply Expert Report of Steven Schwartz, Ph.D., 7/12/2024.

**Deposition testimony**

Ashley Langer University of Arizona, Associate Professor of Economics, 6/21/2024.

Kristian Miller Valve Corporation, Data Science and Software Development, 10/3/2023, Exhibits 66–75.

Steven Schwartz Secretariat, Managing Director, 4/18/2024.

**Research materials**

Boik, Andre and Kenneth S. Corts (2016), "The Effects of Platform Most-Favored-Nation Clauses on Competition and Entry," *The Journal of Law and Economics* 59(1): 105–134.

HIGHLY CONFIDENTIAL – ATTORNEY'S EYES ONLY

Investopedia, “Netting: Definition, How it Works, Types, Benefits, and Example,” 6/12/2024, <https://www.investopedia.com/terms/n/netting.asp>.

Keen, Michael (1998), “The Balance Between Specific and Ad Valorem Taxation,” *Fiscal Studies* 19(1): 1–37.

Lifewire Website, Steam Community Market: What It Is And How To Use It, <https://www.lifewire.com/steam-community-market-what-it-is-and-how-to-use-it-4586933> (accessed 9/6/2024).

Rochet, Jean-Charles and Jean Tirole (2003), “Platform Competition in Two-sided Markets,” *Journal of the European Economic Association* 1(4): 990–1029.

Rochet, Jean-Charles and Jean Tirole (2006), “Two-Sided Markets: A Progress Report,” *The RAND Journal of Economics*, 37(3): 645–667.

Steam Website, Steam Community Market, <https://steamcommunity.com/market/> (accessed 9/6/2024).

Steamworks Website, Steamworks Documentation: Steam Keys, <https://partner.steamgames.com/doc/features/keys> (accessed 10/18/2023).